

varies, although, at the same time, it may have planted doubt about the validity of so-called "hard" data on quality of care. It probably served to support the notion of cautious consumer choice without providing concrete guidance on how to obtain useful and valid data on health care quality.

It is probably unrealistic, because of the practical constraints of time and space, to expect newspapers to carry this additional information. If HCFA would provide this type of explanation in its press kits, however, newspapers might include it in their articles. Quotes from HCFA and government officials were common in the newspaper coverage we analyzed.

Both public officials and health professionals believe that the demand for information about quality of care is increasing (9,10). It is important that these topics be handled objectively and cautiously to avoid generating unwarranted fear among readers. Newspapers that cover these matters should be conscious of their role as unofficial information brokers and continually strive to provide balanced coverage of health care issues to consumers of medical services.

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Requiring Formal Training in Preventive Health Practices for Child Day Care Providers

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Synopsis

The study was a test of the feasibility of mandating training in preventive health practices for child

day care providers in California. Three approaches were taken to determining the feasibility of mandatory training. They were (a) to identify persons and groups with the capability to provide training, (b) to identify systems and networks for communication and collaboration on health issues related to day care at the local level, and (c) to determine the child day care providers' concerns, needs, and future interests regarding child health.

Information was collected on relevant courses offered by universities, colleges, and adult education programs; on training offered by child health authorities; and on formal curriculums offered by local and national sources. Day care center and family day care home providers were surveyed to determine their knowledge of child health issues, their concerns, and their future needs. The providers surveyed cared for a total of 14,340 children. Information on local networks was obtained from the surveys, from interviews, and from a special task force that had been set up to advise the State legislature.

Study results supported the conclusion that a coordinated system of State-wide training was feasible, given the existing networks of training and

educational resources, the number of day care providers who had already been motivated to seek some training in child health practices, and the almost unanimous interest among day care providers in obtaining training. Mandating training in

child health for day care providers will require a commitment in the form of new legislation outlining basic requirements and allocating funding. The implementation and costs of such a mandate at the State and local level are discussed.

SUPPORT IS GROWING FOR A NATIONAL POLICY on day care for children that offers quality child care services to all working families.

In 1988, Senator Christopher Dodd of Connecticut introduced the Act for Better Child Care (ABC), supported by a broad coalition of concerned citizens, legislators, and organizations. That bill was defeated, but a subsequent version passed the 101st Congress in 1990. Known as the Child Care and Development Block Grant, the legislation authorized \$2.5 billion over 3 years to increase the availability of child care to low-income families and to establish standards for quality care and safety in all child care facilities. A smaller complementary program, Entitlement Funding for Child Care Services, was also enacted.

Renewed interest in providing day care services arises from widespread changes in employment and family patterns during the past 20 years. Today more than 64 percent of women with children are in the work force, with a predicted increase to at least 70 percent by 1990 (1, 2). Changes in extended family patterns and the increase in single-parent families have made out-of-home day care, provided either in day care centers or day care homes, an essential service for many parents.

The demand for scarce resources in the day care services market has tended to focus attention on quantity, rather than quality of care provided. A key component of quality care is the protection of the health and safety of the child. Greatly underpaid and undervalued, the vast majority of women who provide child care services through day care homes are qualified by way of experience with children rather than through any specific training. A much smaller proportion, those who work in day care centers, have some formal education or training in child development.

Increasing awareness of the means of transmission of infectious diseases, of the causes of injury to children, and of child abuse occurring in day care settings has heightened concerns for close monitoring of child day care. These situations underscore the need for training in basic health and

safety practices that are related to the care of children. Such training needs to be focused on preventing the transmission of disease, sanitary practices in food handling, pediatric first aid and cardiopulmonary resuscitation (CPR), and accident prevention.

These core skills are necessary to improve the health and environment of children in out-of-home care. Some States have added other areas for training, such as child abuse detection and prevention, nutrition, and child development, to the core based on local needs (3). However, the problems encountered by day care providers in accessing training resources limit the amount of information that can be made available and the training that can be offered.

Nationally, 52 percent of all children being cared for in day care homes are between birth and 2 years of age, as are 35 percent of children being cared for in day care centers (4). These figures underscore the prevailing public health concerns about transmission of disease through the oral-fecal route, poor sanitation practices, and accidents that occur most frequently in group settings (5).

To date, most efforts to improve the quality of day care have been voluntary, originating mostly within the day care field. The national study of licensed center and family day care conducted by Work/Family Directions, Inc., Watertown, MA, in collaboration with the National Association for the Education of Young Children, found that only 36 States mandate preventive child health training of any kind (3). The mandates set the required content for the health component of the training of all staff members, or a requirement that a staff member trained in first aid be on the premises.

Twenty-three States require the presence of a trained staff member, and 16 States require some health training for all staff members. Only Florida, Massachusetts, and Nevada require both. It is not known whether the first aid referred to included CPR, which was not listed as a specific item in the health content area. California is among those

States that require no preventive health training for child day care providers.

Methods

In 1987, the authors carried out a study initiated by the California legislature and administered by the State's Department of Education (2). The purpose of the study was to test the feasibility of mandating statewide health training for all child day care providers as a condition of licensure. Preventive health training was defined by the enabling legislation as including pediatric (CPR), pediatric first aid, and preventive health practices, including food preparation and sanitation practices that reduce the spread of infectious diseases. The legislation provided for the appointment of a task force that was to develop recommendations to the legislature based on the study findings.

We used survey methodology to obtain statewide data from five subject groups: licensed child day care center staff members, licensed family day care home staff members, California's Child Care Resource and Referral programs (CCR), coalitions of family day care providers, and community-based providers of relevant health training. A 10 percent random sample of child day care centers, a 25 percent random sample of family day care homes, and all identified health trainers were selected from nine counties chosen to reflect geographic location, geographic size, and population size. All of the 68 statewide CCRs, which are supported by the California Department of Education, were included, as well as three coalitions of family day care homes. In addition, 35 4-year colleges, 11 2-year community colleges, and 18 adult education programs participated in the study.

Survey questionnaires were developed and sent to selected participants. The providers' health knowledge survey was a 35-item questionnaire containing 30 multiple choice questions designed to determine knowledge of child health and safety, and 5 open-ended questions about the day care setting and child health training needs.

The child health trainer survey was a 15-item, open-ended questionnaire designed to determine the type, cost, and length of training offered. Trainers were defined as persons involved in teaching child health and safety courses, regardless of institutional affiliation. The college, university, and adult education survey contained questions on courses offered, prerequisites, costs, and degrees or recognition given.

The questionnaire for CCRs and the day care

Child day care homes reporting a staff member certified or trained in preventive health practices, by area of health practice

Area of health practice	Small facility (1-6 children)		Large facility (7-12 children)		Total	
	Number	Percent	Number	Percent	Number	Percent
First aid certified ...	152	30.5	69	51.9	221	35.0
CPR certified	176	35.5	76	57.1	252	39.7
Infectious disease prevention	168	33.3	75	56.1	243	38.1
Food handling	189	57.1	77	57.1	266	41.7
Sanitation	183	36.3	73	54.5	256	40.1

homes coalitions solicited perceptions of issues that would facilitate or block support for training at the local level.

Results

Responses of day care providers. Of 995 questionnaires sent, 338 were returned by child day care centers, a response rate of 34 percent. A total of 2,300 questionnaires were sent to family day care homes and 645 were returned, for a response rate of 28 percent. We received additional responses from one child-care coalition, 50 Child Care Resource and Referral Programs, 196 child health trainers, and 64 educational institutions and programs. The total number of responses received was 983, for an overall response rate of 34 percent. The child day care providers surveyed cared for a total of 14,340 children.

Eighty-six percent of the day care centers responding reported that someone in the center had some type of health training. Eighty-one percent of the centers reported that they had a staff member with training in CPR, 71 percent reported a person trained in infectious disease control, and 65 percent reported a staff member trained in food handling and sanitation practices.

Fewer than 40 percent of all family day care homes claimed having a staff member trained in any area of preventive health practices (see table). Large family day care homes were somewhat more likely to have staff members with training than smaller homes.

Both day care centers and day care homes were able to answer slightly more than half of the questions related to child health and safety, sanitation, food handling, and disease prevention strategies. The weakest areas of knowledge were routine childhood immunizations, care of a child during convulsions, health risks associated with caring for infants, the giving of medications, and special needs of handicapped children. Respondents were

'The task force decided to recommend no single curriculum, but to allow local communities to select and adapt existing ones to their own needs as long as minimum requirements were met.'

able to answer correctly only 30 percent or fewer of the questions. Access to a health consultant who could provide ongoing consultation was available to only about half of the facilities, 55 percent of the child day care centers and 40 percent of the family day care homes.

The types of consultant most frequently named when reported were nurses for day care centers and physicians for family day care homes. The next most common source of consultant was the local department of public health (8 percent of day care centers and 3 percent of family day care homes).

Close to 90 percent of the facilities surveyed expressed strong interest in future child health training; the topics of interest were the same as those defined in the enabling legislation.

Additional topics of interest included chronic illness, child abuse, AIDS, exclusion policies, child growth and development norms and deviations, behavior problems, and the education of parents about their children's health (see accompanying box, page 527).

Responses of training resources. While educational institutions offered courses on a quarterly or semester basis, trainers tended towards short-term sessions, averaging 6 to 8 hours in length. Seventy-six percent of all offerings by trainers were standard CPR and first aid; pediatric-specific courses were less available, but trainers believed they could be developed if the demand existed.

Some form of recognition of accomplishment was given for all course offerings, either in the form of course credits or a certificate of completion based on attendance or performance. Charges for courses ranged from free to so-called regular tuition fees; the length of the course was unrelated to its cost.

Responses of CCRRs and day care home coalitions. From the comments of both urban and rural CCRR agencies, the major issues, as they viewed them, were

- the question of resources that exist within the

geographic region, in the form of trainers, consultants, and educational institutions;

- the way that information about resources can be obtained and communicated to providers;
- the high cost of training, which discourages providers from using it;
- the ways that providers can be reached, and incentives given, for attending training; and
- the appropriateness of the content to the needs and daily experiences of the child care provider.

In general, we found that urban areas have adequate resources for training (in terms of the availability of trainers and the location, cost, and appropriateness of training time), and also training is ongoing. However, urban areas may lack a coordinated system to enable trainers, providers, and the licensing authority to interface. In contrast, rural areas face severely limited resources, but experience the same lack of a system to allow key actors to interact.

Task force recommendations. The statewide task force, created by the enabling legislation to review and comment on the study results, developed the following prerequisites for mandated training.

- stated purpose, goals, and objectives;
- interest and motivation on the part of the providers;
- consensus about minimum, relevant staff skills;
- available training resources;
- knowledge of potential effects of such a mandate on the availability of child care services;
- clarification of roles among the official and nonofficial agencies concerned about the health and well-being of children in day care;
- appropriate funding for program administration; and
- enabling legislation that addresses each of these issues.

The question of what constitutes appropriate content that can be standardized and monitored was raised at different stages of the study by a number of survey respondents and by the task force members. The investigators obtained curriculum materials from trainers and organizations in California and other States; these materials were reviewed for relevancy and appropriateness by the task force (6-13). (Included was one video, "Taking Care and Out of Harm's Way," made by the California Child Care Resource and Referral Network, San Francisco.)

The task force decided to recommend no single curriculum, but to allow local communities to select and adapt existing ones to their own needs as long as minimum requirements were met. Recommendations on the minimal content that would be required as a condition of licensing were explicit. For center directors and teachers, recommended minimum training required for certification was

pediatric CPR, 4 hours
pediatric first aid and injury prevention, 4 hours
communicable and infectious disease control, 4 hours
food preparation and sanitation practices, 1 hour
use of community health resources, 1 hour
topics of local interest or concern, 1 hour

For family day care providers, the recommended requirements were

pediatric CPR, certification
pediatric first aid, 5 hours
injury prevention, 5 hours
communicable and infectious disease control, 5 hours

The differences in CPR training recommendations for child day care center and family day care home staff members were based on the stand-alone operating status of the latter group. Minimum competencies to be achieved through training for licensing would be

- ability to carry out CPR on an infant or child;
- ability to carry out basic first aid on an injured infant or child;
- knowledge of communicable diseases and their transmission, and ability to use appropriate preventive measures;
- ability to prepare, handle, and store foods in a nutritional and sanitary manner; and
- for center staff, the knowledge of relevant community health resources, and ability to use them appropriately.

Discussion

The findings support the conclusion that a state-wide system of health training is feasible because many of the necessary components are in place. There are a number of excellent training curriculums, available trainers, child care information and referral sources, and many providers who already have some training in child health practices, as well

Training Topics Most Requested by Day Care Facility Staff Members, in Order of Numbers of Requests

Cardiopulmonary resuscitation (CPR)
First aid
Infectious disease prevention
Nutrition planning and food handling
Overall health and safety
AIDS
Child abuse
Behavior problems
Viruses and their sequelae
Educating parents about children's health

as a strong interest in receiving further training.

With the initiation of mandated health training, the question of selecting the appropriate lead agency at the State level needs to be addressed. Since the basic issue is to determine who should be licensed to provide day care services, the appropriate agencies appear, at least initially, to be the department of social services or the department of public welfare. In most States those departments already hold responsibility for child care licensing. However, because responsibility for preventive child health training is not within their expertise, and preschool programs are the responsibility of the department of education in many States, the public health agency may be the appropriate agency. The best possible system will be a combination of the skills and expertise of all those agencies that have a traditional concern for children in day care. However, for purposes of accountability, one agency needs to be named to lead, and could, through negotiation, develop interagency agreements or contracts with collaborating agencies to undertake some parts of the program operation. This issue remains to be determined by each State.

The licensing aspects that would have to be administered are procedures for presenting and validating training credentials and coordinating procedures for validation of mandated training with existing licensure requirements. A model that has some applicability for this system is licensure for health professionals. Although this system for monitoring training in accordance with existing standards may not be appropriate in certain aspects for this use, it could be a point of departure.

A mandate for training will create a rapid escalation in demand for training at the local level. One approach to creating an effective structure for

meeting this demand was recommended in the form of a consortium model. The coordinating structure, or consortium, would identify and list all relevant health trainers at the local level, develop curriculum standards, train trainers in content and method, notify providers of training and trainers available, provide consultation to day care providers, and collect necessary data needed for planning and evaluation. Such a structure would be decentralized and responsive to local characteristics and would operate within the framework of the current State child care resources and mandates while adding a network of new partners.

In California, consortium partners are typically local health departments; CCRR programs; community college districts (child development and extension divisions); institutional trainers, such as the American Red Cross and State or private universities; family day care associations; Young Men and Young Women Christian Associations; and military child care programs. Monitoring of system operations would be done by the consortium.

To initiate the consortium, funding would be needed for program administration. In many local areas, a core group from which the consortium could be developed already exists. In other counties, development would start from the beginning. Preferably a single agency, such as a county health department, would convene and coordinate the consortium work group to carry out the tasks necessary for consortium development. Costs, therefore, would derive from enrichment and coordination of existing resources, not from the creation of new training structures. State legislators need to be convinced that funding of these local consortia will have a positive effect on the health and well-being of the many children in their State who use out-of-home care.

The local consortium model would be supported by the creation of a statewide resource center or clearinghouse through which health curricula, training materials, and current information on child care health issues would be disseminated. As noted earlier, a myriad of excellent educational materials already exist and can be made available to local trainers and providers, with consultation given about their use and adaptation.

The training aspects that would have to be administered are locating, recruiting, and training of the local trainers, monitoring of the training in accordance with standards, monitoring the development of local training plans, and monitoring of local implementation.

Policy Implications

The results of the child health training feasibility study undertaken in California are applicable to other States, with appropriate modifications for State-by-State differences. The findings anticipate the day care standards currently being developed in a joint project of the American Public Health Association and the American Academy of Pediatrics (14).

Policy and programmatic issues of importance when a mandate for training is being considered are appropriate training content, monitoring of compliance with the training mandate, licensure and relicensure procedures, evaluation of the effect of training on child health, and lastly, evaluation of the effect of such a mandate on the availability of day care.

A clear definition of the purpose, goals, and objectives for mandating child health training as a condition of child care licensure is a high priority. In this instance the goal is the assurance to parents and to the public that child care staff has the competence to promote and maintain the health of children in their care, as well as the ability to prevent accidents and the spread of communicable disease. Staff skills reflecting that goal are, for example, the ability to prepare nutritious meals, the ability to maintain a safe play environment, and the practice of hand washing after toileting.

Processes of assuring that certain minimum preventive health skills are held by all child care workers are the elements in a system that would set the standards for competence, assure availability and quality of training, monitor compliance, and issue licenses.

Since many people are concerned about overregulation, it is important to be clear about the purpose for such a training mandate and to convey the purpose, program goals, and objectives to all relevant parties. The success of the entire effort depends on support of a broad constituency that is fostered by clear communication of the goals and objectives as they relate to the maintenance and improvement of child health.

Appropriate objectives would include reducing the spread of communicable and infectious diseases, attaining maximum potential for growth and development, complying with recommended schedules for immunizations, and health maintenance. Conveying child-focused objectives rather than system-focused objectives is paramount. Clearly, before training can be mandated, a consensus among providers or their representatives, and rep-

representatives of regulatory public health agencies and advocacy groups, should be reached.

The feasibility study data presented in this paper help to justify the existing readiness for a mandate for universal preventive health training for child care providers. What needs to be further addressed is the question of how such training can be delivered. The consortium model that is currently being tested in California is one such model for implementation. Obviously, other approaches exist, such as centralized, statewide training. Whatever direction is taken, the ultimate goal is improved standards of health and safety for all children who receive child care services.

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Availability and Use of Hepatitis B Vaccine in Laboratory and Nursing Schools in the United States

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Synopsis

Hepatitis B is a well-documented occupational hazard for health care workers, including both laboratory and nursing personnel. Since the development of effective hepatitis B vaccines, the Immunization Practices Advisory Committee (ACIP) has recommended that health care workers receive the vaccine. In this study, 78 laboratory training programs and 83 nursing training programs were surveyed regarding availability and usage of hepatitis B vaccine. The hepatitis B vaccine was made available to students in 81 percent of the laboratory programs and 23 percent of the nursing programs.

In those programs making the vaccine available, only 59 percent of the laboratory programs and 5 percent of the nursing programs reported a high (greater than 75 percent) use by students. Concern about cost and payment for the vaccine was the most common reason (80 percent) noted by laboratory schools that did not have hepatitis B vaccina-